

Amendments to the Claims

Listing of Claims:

1. (Currently amended) Method- A method for filling a contact hole (20), comprising: in which depositing a base layer (50) is deposited in at least one contact hole (20) under a protective gas atmosphere, which wherein the base layer comprises titanium nitride, in which depositing a covering layer (54) is deposited under gaseous nitrogen atmosphere in the contact hole (20) after the deposition of depositing the base layer (50) under gaseous nitrogen, which wherein the covering layer comprises titanium nitride, and wherein in which case, by virtue of the fact that firstly depositing the base layer is deposited under a protective gas, on the metal at the bottom of the contact hole no substantially prevents the formation of nitride compounds form between the metal in the titanium nitride at the bottom of the contact hole and by reaction with nitrogen contained in a reactive gas the gaseous nitrogen, and depositing a contact hole filling material made of comprising tungsten being deposited in the contact hole (20) after the deposition of depositing the covering layer (54), characterized in that wherein the covering layer (54), at the bottom (24) of the contact hole, has a thickness (D4) of less than about 10 nm.

2. (Currently amended) Method- The method according to Claim 1, characterized in that wherein the base layer (50) and/or the covering layer (54) or both are is deposited by directional sputtering.

3. (Currently amended) Method- The method according to Claim 1 or 2, characterized in that further comprising depositing an intermediate layer (B3, B4)

is deposited by directional sputtering in the contact hole (20) after the deposition of depositing the base layer (50) and before the deposition of depositing the covering layer (54) preferably by directional sputtering, which wherein at least about eighty per cent percent of the atoms of the intermediate layer being comprise titanium atoms.

4. (Currently amended) Method The method according to one of the preceding claims claim 1, characterized in that wherein depositing an intermediate layer comprises forming at least one region (B3, B4) of the intermediate layer (52) is deposited by sputtering from a nitride-free surface of a sputtering target (108) under a protective gas atmosphere.

5. (Currently amended) Method The method according to Claim 2 one of Claims 2 to 4, characterized in that wherein depositing a base layer comprises sputtering the base layer from the surface (157) of the a sputtering target, for the sputtering of the base layer (50), that is nitrided before the deposition of depositing the base layer (50) under nitrogen:

6. (Currently amended) Method The method according to Claim 3 one of Claims 2 to 5, characterized in that wherein depositing the base layer (50) and the covering layer (54) and preferably also the intermediate layer (52) are produced comprises sputter deposition using the same sputtering target (108).

7. (Currently amended) Method The method according to Claim 1 one of the preceding claims, characterized in that further comprising forming the contact hole (20) is introduced into in a dielectric layer (18) as far as to expose an electrically conductive connecting section (14), wherein and in that the connecting section (14) preferably contains comprises one of aluminum or an aluminum alloy as a main constituent.

8. (Currently amended) Method The method according to Claim 7, characterized in that further comprising forming an auxiliary layer or the electrically conductive connecting section and etching a multiplicity plurality of contact holes (20) are etched simultaneously into in the dielectric layer (18), in that an wherein the electrically conductive auxiliary layer (16), preferably an antireflection layer, is arranged between the dielectric carrier material (18) and the connecting section (14), and in that the auxiliary layer (16) is used as a stop layer during the etching, a penetration of the auxiliary layer (16) occurring at thin locations of the dielectric layer and/or at locations with a higher etching rate being accepted, however.

9. (Currently amended) Method The method according to Claim 1 one of the preceding claims, characterized in that the contact hole wherein depositing a contact hole filling material is deposited in is deposited comprises depositing using tungsten hexafluoride.

10. (Currently amended) Method The method according to Claim 3, characterized in that wherein depositing the base layer (50) together with and the intermediate layer (52), comprises forming a composite layer at the bottom (24) surface of the contact hole, has having a thickness (D2, D3) of less than about 5 nm, in particular less than 3 nm.

11. (Currently amended) Method The method according to Claim 1 one of the preceding claims, characterized in that further comprising forming the contact hole (20) has to have a diameter of less than about 1 μm , preferably of about 0.5 μm , and/or in that the contact hole (20) has and to a depth of greater than 500 nm, preferably greater than 1 μm .

12. (Currently amended) An integrated circuit arrangement (10), comprising:

having at least one contact hole (20), in which a base layer (50) and a covering layer (54) made of comprising titanium nitride are arranged, wherein the base layer (50) adjoining adjoins a connecting section (14) made of comprising one of substantially nitride-free aluminium or an aluminium alloy and no aluminium nitride being arranged between the connecting section (14) and the base layer (50), and wherein the contact hole (20) containing contains a filling material comprising made of tungsten, and characterized in that wherein the covering layer (54) has, at the a bottom (24) of the contact hole, has a thickness (D4) of less than about 10 nm.

13. (Currently amended) The integrated circuit arrangement according to Claim 12 characterized in that further comprising in an intermediate layer (52) arranged between the base layer (50) and the covering layer (54), wherein at least about eighty per cent percent of the atoms of the intermediate layer are comprise titanium atoms.

14. (Currently amended) The integrated circuit arrangement according to Claim 13, characterized in that wherein the base layer (50) together with and the intermediate layer (52), comprise a composite layer at the a bottom (24) surface of the contact hole, has having a thickness (D2, D3) of less than about 5 nm, in particular less than 3 nm.